

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

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**FEB 13 2006**

In re application of:

Group Art Unit: 1732

James W. Hendry

Examiner: Suzanne E. McDowell

Serial No.: 10/770,932

Filed: February 3, 2004

For: **METHOD FOR INJECTION MOLDING OF  
PLASTICS MATERIALS USING GAS  
HOLDING PRESSURE IN MOLD**

Attorney Docket No.: LC 0148 PUS

**CERTIFICATE OF MAILING/TRANSMISSION (37 C.F.R. § 1.8(a))**

I hereby certify that this correspondence is, on the date shown below, being transmitted by facsimile to (571) 273-8300 (Centralized Facsimile Number).



Signature

Date: 2/13/06

Karen A. Hopf

**BRIEF ON APPEAL**

Mail Stop Appeal Brief - Patents  
Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

Sir:

The following Appeal Brief is submitted pursuant to the Notice of Appeal dated December 13, 2005, for the above-identified application.

U.S.S.N. 10/770,932

2 Attorney Docket No.: LC 0148 PLUS  
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**CENTRAL FAX CENTER****FEB 13 2006****I. Real Party in Interest**

The real party in interest in this matter is Lear Corporation, 21557 Telegraph Road, Southfield, Michigan (hereinafter "Lear").

**II. Related Appeals and Interferences**

There are no other known appeals or interferences which will directly affect or be directly affected by or have bearing on the Board's decision in the pending appeal.

**III. Status of the Claims**

Claims 12-16 stand rejected in the Office Action dated June 17, 2005.

**IV. Status of Amendments**

No Amendments were filed following the June 17, 2005, Office Action.

**V. Summary of Claimed Subject Matter**

The present invention provides an improved gas-assisted plastic injection molding system for making parts and components in which a spill-over cavity is not utilized or required. As explained in Paragraphs 23-25 of the Applicant's specification, the part mold is sealed and initially pressurized to a pre-specified pressure. An electronically controlled gas pressure valve is utilized to control the pressure of the gas in the mold. The gas pressure valve is infinitely pressure controlled and a pressure switch is utilized to control its operation. As the plastic material is injected into the mold, the initial pressurized gas increases in value until it reaches a pre-specified or predetermined pressure.

As further explained in Paragraphs 31-32, when the injected pressure has compressed the pre-charged gas pressure to the maximum pre-selected pressure as set in the gas pressure valve, any excess pressure will be vented. The pressure is then held constant in the mold cavity. Pressurized gas is then injected into the plastic material in

U.S.S.N. 10/770,932

3

Attorney Docket No.: LC 0148 PUS

the mold cavity. The gas forces the plastic material into all of the portions of the mold and forms a hollow cavity in the material. The remaining plastic material is injected into the mold cavity sufficient to make the completed molded part.

Then, as disclosed in Paragraphs 34-35 of the specification, when substantially all of the plastic material is injected into the mold cavity, the pressure valve allows venting of the pre-pressurized gas at a controlled rate of pressure. Once the plastic material is solidified and cooled sufficiently to make the part self-supporting, the pressurized gas inside the hollow cavity in the molded part is vented, the mold is open, and the part is ejected from the mold cavity. A pressure switch is utilized to control the operation of the gas pressure valve.

#### **VI. Grounds of Rejection to be Reviewed on Appeal**

1. Are claims 12-15 anticipated under 35 U.S.C. §102(b) by the Guergov patent (U.S. No. 6,019,918)?

2. Are claims 12 and 14-16 anticipated under 35 U.S.C. §102(b) by the Shah et al. patent (U.S. No. 5,558,824)?

#### **VII. Argument**

**The Rejection of the Claims as being anticipated under 35 U.S.C. §102(b) by either Guergov or Shah et al. is not sustainable.**

Claim 12 is the only independent claim in the case and distinguishes the Applicant's invention from the prior art. It is submitted that neither of the prior art references, whether taken individually or in any permissible combination, disclose or suggest the inventive combination of features forming the Applicant's invention as set forth in the claim 12, or claim 12 in combination with claims 13, 14, 15 or 16.

Neither the Guergov or Shah et al. references disclose or suggest the use of a gas pressure valve for removing the gas from the mold cavity as the plastic material is

U.S.S.N. 10/770,932

4 Attorney Docket No.: LC 0148 PUS

injected into it and later when it is necessary to allow the plastic material to completely fill the mold cavity. Also, neither of the references disclose or suggest the use of an infinitely adjustable pressure control valve for removing the gas from the mold cavity as the plastic material is injected into it and later when it is necessary to allow the plastic material to completely fill the mold cavity.

Claim 16 in particular requires the use of a pressure switch to control the operation of the infinitely adjustable pressure control valve. Neither of the cited references disclose or teach the use of such a pressure switch to perform such a function.

In view of the foregoing, it is submitted that all of the claims remaining in the case, namely claims 12-16, are not anticipated by either of the cited references. Neither reference discloses each and every element and limitation of independent claim 12, or the combination of claim 12 with either claims 13, 14, 15 or 16. Accordingly, the rejection by the Examiner should be reversed and the claims and application should be passed to issuance.

#### **VIII. Claims Appendix**

A copy of each of the claims involved in this appeal, namely Claims 12-16 is attached as a Claims Appendix.

#### **IX. Evidence Appendix**

None.

#### **X. Related Proceedings**

None.

#### **XI. Conclusion**

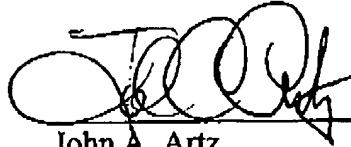
For the foregoing reasons, the Appellant respectfully requests that the Board direct the Examiner in charge of this case to withdraw the §102 rejections of claims 12-16.

U.S.S.N. 10/770,932

5 Attorney Docket No.: LC 0148 PUS

Please charge any fees required in the filing of this appeal to deposit account 50-0476.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'John A. Artz', is written over a horizontal line.

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Date: February 13, 2006

U.S.S.N. 10/770,932

6 Attorney Docket No.: LC 0148 PUS

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FEB 13 2006

CLAIMS APPENDIX

12. A system for forming an injection molded plastic part in a mold comprising:

a mold, said mold having a part-forming mold cavity therein;

sealing members for sealing said mold cavity and preventing gas leakage therefrom;

a first gas source for supplying a gas into the mold cavity to pre-pressurize the mold cavity to a first pre-determined value;

a gas pressure valve for removing said gas from the mold cavity as desired;

a gas control mechanism for maintaining the gas pressure in the mold cavity at a second pre-determined value;

a source for injecting molten plastic material into the mold cavity;

a gas pin assembly for supplying gas into the plastic material in the mold cavity;

and

a second gas source for supplying gas to said gas pin assembly.

13. The system as recited in claim 12 further comprising:

at least one ejector pin assembly for ejecting the completed plastic part from the mold cavity.

14. The system as recited in claim 12 wherein said first and second gas source are the same source.

15. The system as recited in claim 12 wherein said gas control mechanism comprises an infinitely adjustable gas control valve.

16. The system as recited in claim 12 further comprising a pressure switch for controlling the operation of said valve.